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MEASUREMENT OF ADVERTISING EFFECTIVENESS:

SOME THEORETICAL CONSIDERATIONS

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Measurement of Advertising Effectiveness: Some Theoretical Considerations

ABSTRACT

This paper examines three different aspects of effectiveness of advertising communication. First, how does a specific advertising communication get distorted in the consumer's mind, what are the dimensions of distortion and what factors produce the cognitive distortion. Second, how does advertising influence the consumer choice process? Two mechanisms called persuasion and reinforcement are discussed and the underlying processes of influence and tactics are explored. Third, how does advertising influence consumption behavior? Two mechanisms called reminder and precipitation are discussed and the underlying processes and tactics are explored. Finally, the paper discusses a sequential linkage among the four mechanisms of advertising effectiveness and gives opinions on the pervasiveness of advertising through each mechanism.

MEASUREMENT OF ADVERTISING EFFECTIVENESS: SOME THEORETICAL CONSIDERATIONS

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If prior research and thinking are any indication, theorizing about advertising effectiveness is analogous to the eternal search for inner peace: everybody hopes for it, some attempt to search for it, but no one has yet discovered it. This paper is one more attempt in search for measurement of advertising effectiveness. It is limited in scope by the fact that it is only a theoretical search, and the empirical content and validation are only secondary and indirect.

A review of prior empirical and theoretical research on the measurement of advertising effectiveness indicates that there are at least three distinct dimensions of measuring advertising effectiveness which have been unfortunately confused and mixed up in the past (1, 2, 3, 4, 7, 8, 12, 13, 16, 17, 19, 21). We need separate theoretical considerations for each type of advertising effectiveness before some systematic research can be undertaken to conclude whether advertising works or not, and if so, how.

The first aspect of advertising effectiveness is the question of cognitive distortion which entails in any communication process. In other words, by what process does an advertising communication as a stimulus (S) become a stimulus-as-coded (S-A-C) in the mind of the consumer? Most of the empirical research on attention, awareness, recall, recognition and selective perception has dealt with this problem with mixed results. What we seem to need urgently is a comprehensive theory of cognitive distortion of advertising communication.

The second aspect of advertising effectiveness is related to measuring its influence on the choice processes of consumers. In other words, how does, and by how much, advertising influence the consumer's choice process by systematically

biasing him toward an alternative? In the past, persuasion theory and research have mostly dealt with this problem with an almost exclusive concentration on attitude change and related cognitive processes (10, 14).

The third distinct aspect of advertising effectiveness is the question of the role of advertising in increasing consumption behavior of consumers. The focus here is not on the choice process given numerous alternatives such as brands or types of products and services but on the process by which people become consumers or enhance their level of consumption of a specific product or service. Very little behavioral research has been directed toward this aspect of advertising effectiveness although, we do find considerable applications of management science and operations research to this area in their efforts to discover laws of advertising sales relationship.

In this paper, an attempt is made to provide realistic and comprehensive theories of advertising effectiveness for each dimension. However, due to the limitations of space, we will only briefly present each theoretical model rather than discuss its relationship to other conceptualizations.

Theorizing About Stimulus-as-Coded Effects of Advertising

What is perceived of the advertising communication by the consumers is defined as stimulus-as-coded (S-A-C). There are at least three dimensions on which the S-A-C is likely to vary from the actual stimulus due to the cognitive distortion entailed in every communication. The first dimension is the magnitude of cognitive distortion. Due to the finite cognitive limits in human information processing alone, we should expect lack of isomorphic relationship between the stimulus and S-A-C (15). Of course, there are hosts of other factors which will also determine the magnitude of advertising information received, processed and retained by the consumer. Let us call this type of distortion as magnitude

distortion. The traditional measures of recall and readership have attempted to measure this. The second dimension on which S-A-C will be at variance with the actual stimulus is with respect to the descriptive beliefs or the denotative meaning of the message communicated in advertising. In other words, what is communicated about the product or its attributes as factual descriptive pieces of information (for example, Pinto is a subcompact car which comes in three different body styles)' is cognitively distorted by the consumer so that he perceives a very different meaning of the product or its attributes. We shall call this as the meaning distortion in communication. It is relatively easy to measure the meaning distortion by means of multidimensional perceptual mapping techniques.

The third dimension on which the S-A-C is likely to be at variance with the actual stimulus is with respect to the evaluative beliefs or the connotative meaning of the product or its attributes involved in advertising communication. Since most advertising communications tend to be evaluative in nature (my product is better than your product or this attribute is more important than that attribute), it is easy to understand the existence of strong distortions with respect to product or attribute preferences. This type of distortion is called evaluative distortion in communication. Once again, it is relatively easy to measure evaluative distortion by preference mapping techniques.

It is probably safe to hypothesize that there are individual differences with respect to the three dimensions of cognitive distortion. Thus, different consumers will manifest different levels of cognitive distortion on each dimension for the same advertising communication. It is also safe to hypothesize that there are stimuli differences with respect to the three dimensions of cognitive distortion. Thus, some advertising communications will be distorted more than others by the same consumer. Finally, we may also conclude that there are situation differences with respect to the three dimensions of cognitive distortion so that the same advertising communication to the same consumer produces different levels of

cognitive distortion from one situation to another. Thus, we may formally state:

$$Y = f(A, C, S)$$

where Y = a three element vector of cognitive distortions,

A = a p-element vector of advertising - related factors,

C = a q-element vector of consumer - related factors, and

S = a r-element vector of situation - related factors.

Since there are multiple cognitive distortion effects and presumably multiple sets of causal factors, it is easy to conceptualize the S-A-C effects of advertising as a canonical correlation problem. Thus, we may write the following general canonical equation:

$$a_1 y_1 + a_2 y_2 + a_3 y_3 = (b_1 x_1 + b_2 x_2 + \ldots + b_p x_p) + (b_{p+1} x_{p+1} + b_{p+2} x_{p+2} + \ldots + b_q x_q) + (b_{q+1} x_{q+1} + b_{q+2} x_{q+2} + \ldots + b_r x_r)$$

Implicit in the above canonical model are several assumptions. First, the causal factors both within a set and between the sets are compensatory in their effect on the dependent phenomenon. Thus, they can cancel or enhance each others effects. Second, the effects are linear. Both of these assumptions need testing and validation before we can build a mathematical model of advertising effectiveness related to cognitive distortions.

A more serious problem is the identification of specific variables which should be included as the causal variables for each of the three factors. Based on past empirical research, we can at least have some broad categories of variables.

The advertising-related factors include the mechanical variables (color, size, illustration), the message variables (product benefits, rational and emotional motivational appeals), the channel variables (efficiency for symbolic representation, channel reach, and channel image), and the source variables (credibility, popularity and expertise of the communicator). Most of these variables are found to produce differential cognitive distortions across advertising communications. The mechanical and the channel variables seem to primarily produce magnitude and

meaning distortions and the message and the source variables seem to primarily produce evaluative distortions.

The consumer-related factors are too many and probably highly intercorrelated with one another (9). It is perhaps sufficient to hypothesize that there are two basic variables which govern the cognitive distortion. They are consumer's attitude toward each element of advertising-related factors, and his familiarity with those elements. It seems logical to think that the discrepancy between the stimulus and the S-A-C should be a function of the discrepancy between advertising-related and the consumer-related variables on the essential elements of the advertising communication. Hence, we need the counterpart consumer-related variables for each element of advertising-related variables. It is obvious that the differential attitudes and familiarity of consumers will explain the differences among consumers in their cognitive distortions for the same advertising communication. Perhaps, the consumer familiarity variables determine more the magnitude and meaning distortions and the consumer attitude variables determine more the evaluative distortions.

The situation-related factors are the most difficult to identify because of the vast variety and ad hoc nature with which they exert influence on human information processing. Most of the situation-related factors are, however, related to the time and place influences and we can probably theorize about some common processes with which they exert their influence on cognitive distortion. Three influences are suggested here. The first is context (physical, mental or social) which tunes-up or tunes-out the consumer from processing advertising communication. The second is anticipated distraction by which the consumer takes into account extraneous events which are likely to arise in the near future. The third is unexpected distraction by which extraneous events become a surprise to the consumer at the time and place of advertising communication. We still don't know whether the effects of these three factors are positive or negative in reducing cognitive distortion.

Before we discuss the second aspect of advertising effectiveness, two things need some discussion and clarification. First, the problem of cognitive distortion

and its measurement via attention, recall, recognition and perceptual or preference mapping should not be included as part of advertising effectiveness. The discrepancy between the stimulus and the S-A-C represents more the lack of science and, to some extent, the incompetence of advertising management rather than its conscious planned effort. Unfortunately, the hierarchy-of-effects models and the earlier advertising research have tended to overemphasize the art of advertising management by considering the area of cognitive distortion as part of advertising effectiveness (3,12). Second, while there exists considerable piecemeal empirical evidence on most of the above-mentioned variables as caveats for the advertisers, there exists very little systematic research to examine the compensatory, partial and interactive effects of all of the variables on cognitive distortion. Without such a concerted effort, it is unlikely that we will ever give up measurements of awareness, recall and recognition in advertising research.

Theorizing About Advertising Effects on Choice Processes

The heart of advertising effectiveness is the question of how it influences the consumer in making a biased choice in favor of one alternative (brand or type of products) over other alternatives. It would appear that there are two distinct mechanisms by which advertising contributes toward a consumer's biased choice. The first is the persuasion mechanism in which advertising induces the consumer to incorporate both cognitive and noncognitive elements in his choice process so as to produce the desired effect of making a biased choice. The second mechanism is the reinforcement mechanism in which advertising legitimizes, facilitates and rationalizes the choice behavior post facto. The persuasion theorists typically have presumed that it is easier to manipulate the consumer's cognitive world which will, in turn manipulate his choice behavior due to cognitive consistency equilibrium between one's cognitions and behavior (14). The reinforcement mechanism presumes that it is easier to bring about cognitive change as a consequence of behavior change by the process of rationalization and legitimization (5). It is

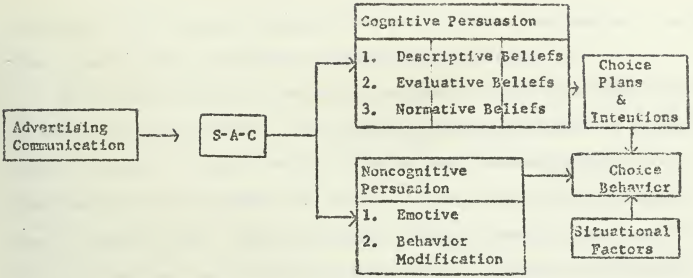

Figure 1

The Persuasion Mechanism of Advertising Effectiveness

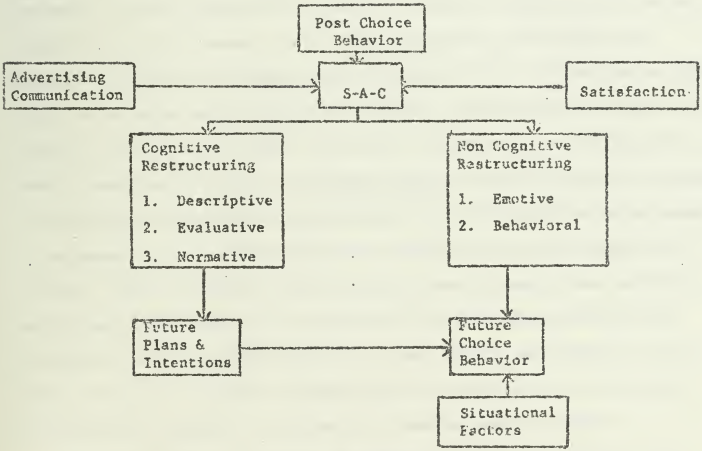

Figure 2

The Reinforcement Mechanism of Advertising Effectiveness

extremely critical for both managerial and public policy considerations to establish by which process advertising influences choice behavior.

The process by which the persuasion mechanism of advertising effectiveness works is described below in Figure 1. The cognitive persuasion follows the familiar path of research on attitude-behavior relationship in social psychology and experimental mass communication (6, 14, 20). It will not be fully discussed here to conserve space. The only pertinent comment to make is that there are a host of situational factors which intervene between cognitive or noncognitive persuasion and choice behavior so that the impact of advertising communication is at best stochastic rather than deterministic (18). In addition, there are other systematic influences which may compensate the impact of advertising. The noncognitive persuasion, however, is not fully researched except perhaps the Krugman's principle of learning without involvement (11). The emotive persuasion refers to the advertising influence on consumer's choice behavior on emotional-affective criteria such as fear, love, hate, identification and frustration. The behavior modification refers to the direct change in choice behavior as a consequence of advertising communication being perceived as entailing an anticipated reward or punishment for the consumer if he did or did not do what the communication dictates. This is similar to the instrumental conditioning process underlying learning and conditioning. It is important to realize that advertising can persuade and influence choice behavior by a more direct, noncognitive route at least as much as by the more "rational" cognitive persuasion route especially on children and ignorant or technically incompetent adult consumers.

While the tactics of noncognitive persuasion are fairly straight forward (heightning the motivational level), there are numerous different ways in which cognitive persuasion can be achieved by advertising communications. First, cognitive persuasion can occur by changing the relative perceived instrumentality of an alternative. This itself can be accomplished by enhancing its potential, derogating the potential of the competing alternatives or both via exaggeration,

withholding information or outright deception. Second, cognitive persuasion can arise by changing the structure of choice criteria which the consumer utilizes to make choice among alternatives. This itself can be achieved by increasing the general level of saliency of all choice criteria, by reallocating saliency among the choice criteria or by decreasing the general level of saliency. In the process, marginal and implicit criteria can be made salient or dropped from consideration affecting the choice process. Finally, cognitive persuasion can be achieved by introducing new choice criteria for consumer's considerations. This seems to have been the most common strategy for the success of radical innovations. Once again, the new criteria can be relevant and specific to the product class or irrelevant and nonspecific such as novelty, curiosity, and the like.

The reinforcement mechanism is less well known in advertising research except as the demonstration for the relevance of cognitive dissonance theory in marketing. Our conceptualization is broader in scope in the sense that post choice behavior entails not only cognitive restructuring but also noncognitive change (emotive and behavior change) with or without concomitant cognitive change. In addition, both cognitive and noncognitive restructuring are likely to be mediated by satisfaction the consumer feels he has received from his choice behavior which may either enhance or curtail the dissonance-based cognitive restructuring or the learning-based noncognitive restructuring. Third, there is no guarantee that the cognitive or noncognitive restructuring will automatically increase the consumer's future behavioral intentions and future choice behavior. Depending upon the trade-off between post choice behavior restructuring and the direction and magnitude of satisfaction, it is possible that the future intentions and choice behavior may be less favorable to the alternative in consideration. Finally, once again the situational factors will make the total process underlying the reinforcement mechanism stochastic rather than deterministic. Figure 2 summarizes the processes underlying the reinforcement mechanism. The tactics of advertising

for noncognitive reinforcement are fairly simple and straight forward (legitimization and reinforcement). However, there are several alternative ways advertising can provide cognitive reinforcement. First, it can enable the consumer to restructure his cognitions so that they are in line with his choice behavior by enhancing the chosen alternative, derogating the rejected alternative, exaggeration or withholding information. Second, it can provide new information which is consonant with the choice. This is achieved by providing information which makes the choice clearcut post facto.

Theorizing About Advertising Effects on Consumption Behavior

It is surprising to find that despite strong beliefs in nonprice competition in oligopoly and monopolistic competition, very little is known about the role of advertising in increasing (and nowadays hopefully diminishing) consumption behavior in a mass society. The mathematical models of logistic or exponential relationships between advertising and sales have not increased our understanding about the mechanisms which underlie the impact of advertising on consumption behavior.

There are probably two distinct mechanisms by which advertising makes an impact on consumption behavior of people. The first is the Reminder Mechanism by which advertising acts as a triggering cue for a habitual behavior learned from prior repetitive experiences and exposures to information. The second is the Precipitation Mechanism by which advertising influences the buy-no-buy choice process or hastens up the process of choice making itself.

The process underlying the reminder mechanism is simple, quick and efficient as can be seen in Figure 3. There is very little mental mediation between the advertising communication and the consumption behavior enabling a direct effect. In addition, the situational factors are less likely to infere on this impact as the consumer has probably learned to cope with them in his process of developing habitual behavior. More interestingly, however, are the unintended, indirect and accidental effects advertising is likely to produce as a reminder mechanism. For

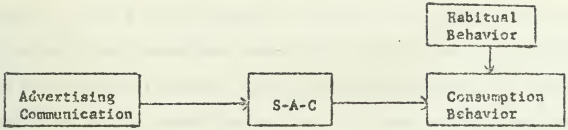

Figure 3

The Reminder Mechanism of Advertising Effectiveness

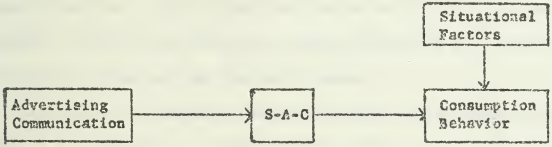

Figure 4

The Precipitation Mechanism of Advertising Effectiveness

example, it is not at all unusual to conceive that no matter who advertises for any beverage, the advertising communication may trigger the consumption of the most common habitual behavior such as consuming Coca-Cola. In other words, as a reminder mechanism, advertising may very well benefit the market leader by generalizing the triggering cue to the most dominant and common habitual behavior. Thus, in a mature market dominated by a strong brand leader such as Coca-Cola or Campbell's Soups, competitive advertising by others may boomerang and benefit the dominant brand due to well-established habits and loyalties in people's consumption behavior. This may also explain why markets generally tend toward an equilibrium: the rich gets richer and the poor gets poorer.

The tactics of reminder mechanism are simple and straight forward. The first tactic is to intensify the product-specific motivational level so that the consumer feels the desire and the need at a time and place where he can immediately manifest consumption behavior. This will be a beneficial tactic for the dominant brand and less beneficial to other brands. The second tactic is to broaden the horizons of consumption behavior by pointing out the appropriateness of an alternative in new and different use situations. For example, the baking soda brands have successfully increased consumption by this tactic.

A second mechanism by which advertising influences consumption behavior is the precipitation mechanism. The process of precipitation is also simple, swift and direct. It induces the people to become consumers for products and services by intensifying the motivations or introducing nonfunctional motivations such as novelty, curiosity and adventure. Perhaps even a greater impact is achieved by "pushing over" those people who are in the process of choice making but still remain undecided whether to become consumers or not. As a precipitation mechanism, advertising seems to marginally tip the balance in favor of consumption as one of two equal alternatives about which there is dilemma in the mind of the potential

consumer. Thus, as a conflict-reducer, advertising is probably most effective in consumption behavior. Figure 4 summarizes the process of precipitation mechanism. It is worth noting that the situational factors are likely to be most influential in both facilitating and distracting the precipitation effects of advertising. The situational factors of monetary resources, time pressure and social norms are obvious examples.

The tactics of advertising as a precipitation mechanism are mostly related to the timing and place of advertising. What matters most is the identification of potential consumers at the optimal time of dilemma in their choice process.

Discussion

Theorizing about advertising effectiveness leads us to the consideration of four distinct mechanisms by which advertising can influence consumer behavior, ; persuasion, reinforcement, reminder and precipitation. We also discussed how each mechanism works and what tactics are available to the advertiser. We need now to consider two more questions: (a) given the dynamics of consumer behavior, is there a sequential linkage among the four mechanisms? (b) Is advertising equally effective in all the four mechanisms?

. Following the dynamics of consumer behavior (becoming a buyer, choosing among alternatives, evaluating the choice and becoming a habitual consumer), it is hypothesized that the sequential nature of the four advertising mechanisms are precipitation, persuasion, reinforcement and reminder. Furthermore, as consumers become satiated and/or bored with a product class and, therefore, search for new product classes, they repeat the cycle. Accordingly, the sequential nature of the four mechanisms is also likely to be recursive. Both of these aspects are summarized in Figure 5.

It is my opinion that advertising exerts the <u>least influence</u> as a persuasive mechanism contrary to the expectations and beliefs of marketing managers, advertising

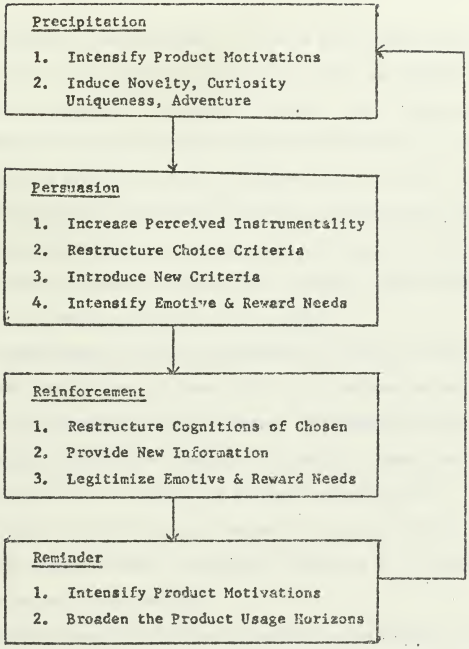

Figure 5

The Sequential and Recursive Nature of Mechanisms of Advertising Effectiveness

agencies and regulatory agencies. Unfortunately, so far we have presumed that advertising has super powers to make people do contrary to their own cognitive world because we know how to manipulate this cognitive world. While this may be true in those cases where the consumer is either ignorant or technically incompetent to form an objective cognitive world, it is not a universal fact of life. I believe most of the concern and anxiety about the ethical conduct of professionals that pervades the advertising and the mass communication world is because we presume that we have the super powers to control consumers and, therefore, must be cautious about and regulate the use of this super power in our command.

On the other hand, advertising does exert considerable influence via the other three mechanisms. However, the influence is not likely to be uniform but varies with the type of purchase and consumer's prior learning. For example, advertising probably exerts the greatest influence as a reminder mechanism in mature, well-established products and services. It exerts the greatest influence as a reinforcement mechanism after the initial choice behavior in major purchase decisions. Finally, it is likely to exert considerable influence as a precipitation mechanism for innovative products and services.

A final note. To measure the effectiveness of advertising is probably analogous to finding a needle in the haystack. There are just too many other factors which also concomitantly and antecedently influence consumer's choice behavior and consumption behavior. Unless we identify, categorize and theorize about these other factors by broadening our horizons to match the complexity and vastness of consumer behavior, we will always either overclaim or unclaim the role of advertising in influencing consumer behavior.

References

1. Adler, L., Greenberg, A. and Lucas, D. B. What big agency men think of copy testing methods, Journal of Marketing Research, 1965, 2, 339-345.
2. Bogart, L., Where does advertising research go from here? Journal of Advertising Research, 1969, 9, 3-12.
3. Colley, R. H., Defining advertising goals for measured advertising results. New York: Association of National Advertisers, 1961.
4. Crespi, I. What kinds of attitude measures are predictive of behavior? Public Opinion Quarterly, 1971, 35, 327-334.
5. Festinger, L., Behavioral support for opinion change. Public Opinion Quarterly, 1964, 28, 404-417.
6. Fishbein, M., Readings in attitude theory and measurement. New York: John Wiley & Sons, 1967.
7. Haskins, J. B., Factual recall as a measure of advertising effectiveness. Journal of Advertising Research, 1964, 4, 2-8.
8. Holbert, N., Key articles in advertising research, Journal of Advertising Research, 1972, 12, 5-13.
9. Howard, J. A. and Sheth, J. N., The theory of buyer behavior, New York: John Wiley and Sons.
10. Kelman, H. C., Processes of opinion change. Public Opinion Quarterly, 1961 25, 57-78.
11. Krugman, H. E., The impact of television advertising: learning without involvement. Public Opinion Quarterly, 1965, 29, 349-356.
12. Lavidge, R. C. & Steiner, G. A., A model for predictive measurements of advertising effectiveness, Journal of Marketing, 1961, 25, 59-62
13. Maloney, J. C., Is advertising believability really important? Journal of Marketing, 1963, 27, 1-8.

15. McGuire, W. J., The nature of attitudes and attitude change, in G. Lindzey & E. Aronson (eds.), The Handbook of Social Psychology, Reading, Addison-Wesley, 1969.

16. Miller, G. A., The magical number seven, plus or minus two: some limits on our capacity for processing information, Psychological Bulletin, 1956, 63, 81-97.

17. Palda, K. S., The hypothesis of a hierarchy of effects: a partial evaluation, Journal of Marketing Research, 1966, 3, 13-24.

18. Sheth, J. N., How Advertising Works, New York: Advertising Research Foundation, 1969 (mimeographed).

19. Sheth, J. N., A field study of attitude structure and attitude-behavior relationship, in J. N. Sheth (ed.) Models of Buyer Behavior: Conceptual, Quantitative and Empirical, New York: Harper & Row, 1973 (in press).

20. Stewart, D. K., Some theoretical considerations of coherent advertising research, Journal of Advertising Research, 1968, 8, 49-51.

21. Triandis, H. C., Attitude and Attitude Change, New York: John Wiley & Sons, 1971.

22. Young, S., Copy testing without magic numbers. Journal of Advertising Research, 1972, 12, 3-12.

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